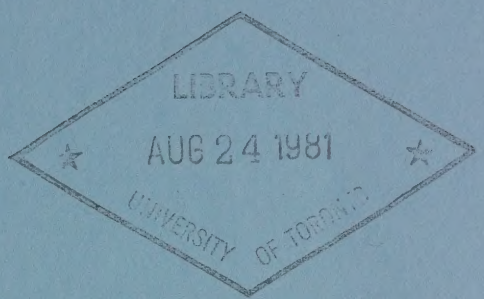
Government Publications

CA1
MT 76
-A66

31761 11637706 0

NATIONAL ENERGY BOARD
REASONS FOR DECISION



In the Matter of an Application under the National Energy Board Act

of

TransCanada PipeLines Limited

June 1981

NATIONAL ENERGY BOARD

REASONS FOR DECISION

In the Matter of an Application under
Part III of the National Energy Board Act

by

TransCanada PipeLines Limited

June 1981

Ce rapport est publié
séparément dans les
deux langues officielles.


Digitized by the Internet Archive
in 2023 with funding from
University of Toronto

https://archive.org/details/31761116377060

NATIONAL ENERGY BOARD

IN THE MATTER OF the National Energy Board Act and the Regulations made thereunder;

AND IN THE MATTER OF an application made by TransCanada PipeLines Limited for a Certificate of Public Convenience and Necessity under Part III of the said Act, filed with the Board under File Number 1555-T1-99.

HEARD AT Ottawa, Ontario on:

19, 20, 21, 22, 25 and 26 May 1981.

BEFORE:

J. Farmer	)	Presiding Member
J.R. Jenkins	)	Member
J.L. Trudel	)	Member

APPEARANCES:

J.W.S. McOuat, Q.C. J.M. Murray	)	TransCanada PipeLines Limited
P.L. Fournier	)	Canadian Petroleum Association
A.L. McLarty	)	Independent Petroleum Association of Canada
P. Thompson, Q.C.	)	Industrial Gas Users Association
J.H. Smellie	)	Dome Petroleum Limited
Y. Brisson	)	Gaz Inter-Cité Québec Inc.
M. Peterson	)	Gaz Métropolitain, inc.
P.F. Scully	)	Northern and Central Gas Corporation Limited
D.B. O'Brien, Jr.	)	Northern Border Pipeline Company
J. Hopwood, Q.C.	)	NOVA, An Alberta Corporation
K.D. Wellman	)	Saskatchewan Power Corporation
J.H. Farrell	)	The Consumers' Gas Company, A Division of Hiram Walker-Consumers Home Ltd., now known as The Consumers' Gas Company Ltd.

L.A. Leclerc	)	Trans Québec and Maritimes Pipeline Inc.
A. Mudryj	)	Union Gas Limited
J.M. Johnson, Q.C. M. Rounding	))	Minister of Energy for Ontario
J. Giroux	)	le Procureur général du Québec
S.K. Fraser	)	National Energy Board

TABLE OF CONTENTS

ABBREVIATIONS

"the Act"	-	the National Energy Board Act
"the Board" or "the NEB"	-	National Energy Board
"CD"	-	Contract Demand
"Consumers'"	-	The Consumers' Gas Company, A Division of Hiram Walker-Consumers' Home Ltd., now known as The Consumers' Gas Company Ltd.
"Gaz Métro"	-	Gaz Métropolitain, inc.
"IGUA"	-	Industrial Gas Users Association
"IPAC"	-	Independent Petroleum Association of Canada
"Ontario"	-	Minister of Energy for Ontario
"TransCanada" or "the Applicant"	-	TransCanada PipeLines Limited
"dBA"	-	decibels measured using the A weighted sound scale
"km"	-	kilometre(s)
"mm"	-	millimetre(s)
"MLV"	-	Mainline Valve
"O.D."	-	Outside Diameter
"MW"	-	Megawatt
"10^3m^3"	-	Thousand cubic metres

CHAPTER 1

THE APPLICATION

TransCanada submitted an application dated 30 December 1980 for a certificate of public convenience and necessity under Part III of the Act. The application was amended on 9 March 1981.

The orginal application, known as the "1981 Facilities Application" requested authorization for the construction and operation of additional pipeline facilities as follows:

Western Section

A total of 188.3 km of 1 219-mm O.D. loop in Saskatchewan and Manitoba.

Central Section

A total of 61.0 km of 1 067-mm O.D. loop, the installation of four 21-MW compressor units at Stations 49, 58, 69 and 80 and two 12-MW compressor units at Stations 105 and 116, all in Ontario.

Montreal Line

A total of 29.3 km of 914-mm O.D. loop consisting of 16.6 km of loop between MLV's 137 and 138 and 12.7 km of loop between the Ottawa Junction and MLV 146, and the addition of two 3-MW compressor units at Stations 139 and 144, all in Ontario. Three existing portable compressor units would be moved to new locations at Stations 134, 136 and 142.

St. Mathieu Extension

A total of 32.6 km of 508-mm O.D. loop in Quebec.

Niagara Line

A total of 46.2 km of 914-mm O.D. loop in Ontario.

In March 1981, TransCanada filed an amended application in which it deleted, because of a revised requirements forecast, the 16.6 km of loop between MLV's 137 and 138 on the Montreal Line.

Portions of the facilities applied for, namely 165.3 km of loop in the Western Section, the six compressor units in the Central Section and 61.0 km of loop in the Central Section, were authorized by the Board in Certificate of Public Convenience and Necessity No. GC-66, as amended by Board Order No. AO-1-GC-66. That certificate, as amended, contains the condition that, prior to commencement of construction of these facilities, TransCanada shall "demonstrate to the Board that all regulatory approvals, on terms satisfactory to the Board, have been obtained for the importation of the total volumes authorized by the Board for export to the United States pursuant to Licence No. GL-55 issued to Niagara Gas Transmission Limited and Licence No. GL-56 issued to ProGas Limited". This condition had not be satisfied. The Applicant stated that it would now propose to construct these facilities, along with the other facilities applied for, to meet sales and transportation requirements forecast for the 1981-82 contract year. Also, the Applicant stated that the additional facilities would provide a normal level of excess capability on its system which would provide TransCanada with the flexibility to serve unanticipated demands occasioned by emergency situations and to accommodate additional deliveries not yet contracted for or approved.

CHAPTER 2

SUPPLY AND REQUIREMENTS

In support of the applied-for facilities, TransCanada provided a forecast of its winter maximum daily and annual system requirements for both the domestic and export markets. The forecast was for the two twelve-month periods commencing 1 November 1980 and 1 November 1981.

The Board, having considered all the evidence presented, finds TransCanada's forecast of requirements to be reasonable. Furthermore, the Board is satisfied that TransCanada has sufficient currently-contracted supply to meet these requirements.

CHAPTER 3

FACILITIES

3.1 Montreal Line and St. Mathieu Extension

TransCanada's application to install additional facilities on the Montreal Line and the St. Mathieu Extension was predicated on increased Canadian requirements in the eastern extremity of its system. The expected increase in TransCanada's 1981-82 deliveries from the Montreal Line was largely attributable to an increase in the contracted winter maximum daily demands by Gaz Métro and Consumers'. However, TransCanada testified that of the increased sales to Gaz Métro, a volume of 1 607 $10^3 m^3$ per day would be contingent upon approval of a development rate.

Subsequently, Gaz Métro indicated that in the absence of a development rate by 1 November 1981, it would be prepared to sign a CD contract for delivery starting 1 November, 1981 of an additional 1 000 $10^3 m^3$ per day. Furthermore, Gaz Métro stated that it was highly probable that additional contracts would be signed with TransCanada and that the effect of these contracts would be to increase Gaz Métro's maximum winter daily requirements by 1 607 $10^3 m^3$.

TransCanada confirmed that if all the facilities on the Montreal Line were approved and constructed, in the absence of a development rate the excess capability of the Montreal Line would be approximately 2.6 percent, assuming an incremental increase of 1 000 $10^3 m^3$ per day for Gaz Métro.

TransCanada stated that the 32.6 km of loop on the St. Mathieu Extension would be necessary as a consequence of the increase in total requirements for Gaz Métro. Although most of the increase would be delivered at Boisbriand, without the proposed loop TransCanada would not be able to fulfill its contractual obligations at St. Mathieu. The 32.6 km of loop would provide TransCanada with a small level of excess capability.

The Board is satisfied that the proposed facilities on the Montreal Line, including the St. Mathieu Extension, are needed to meet the increased requirements on the Montreal Line and to provide a level of excess capability.

Gaz Métro expressed concern that TransCanada had not scheduled the installation of the compressor unit additions on the Montreal Line prior to the start of the 1981-82 heating season. Also, Gaz Métro expressed concern with the design level of excess capability of the Montreal Line.

The Applicant stated that the facilities proposed for the Montreal Line would enable TransCanada to fully deliver its obligations to Gaz Métro and to the Applicant's other customers on the Montreal Line.

The Board notes Gaz Métro's concern regarding the timing of the installation of the compressor units, but is confident TransCanada will endeavour to construct on a timely basis the facilities which will enable it to deliver all its contractual

requirements. The Board would encourage TransCanada to file future applications as early as possible so as to ensure that regulatory authorization and construction of facilities can proceed expeditiously.

3.2 Niagara Line

TransCanada originally applied for 46.2 km of loop for the Niagara Line. During the hearing, the Applicant amended its application to delete the 2.5 km lateral to the Lisgar Sales Meter Station. Therefore, the amount of loop proposed for the Niagara Line was 43.7 km. Of this, 24.6 km would be needed to accommodate the increase in Canadian requirements forecast for 1981-82, and the remaining 19.1 km would provide excess capability on the Niagara Line.

TransCanada stated that if only 24.6 km of loop were constructed, the Niagara Line would restrict the excess capability of the Central Section. The additional 19.1 km of loop would alleviate this bottleneck, and would allow completion of the loop to MLV 207. TransCanada also stated that completion of the loop could eliminate pipe replacements necessitated by future population growth along the original section by permitting the derating of the original line from MLV 204 to 207. Another reason advanced by TransCanada for derating was that the original Class 1 pipe in the Niagara Line does not meet the more stringent toughness requirements under present codes at current operating conditions.

TransCanada also stated that it was its intention to take the original line from MLV 201 to 204 out of service and provide natural gas to the Brampton Sales Meter Station from the 200-2 line.

The Board is satisfied that the 24.6 km of loop on the Niagara Line is needed to meet the increased Canadian requirements within the area. The Board is also satisfied that the additional 19.1 km of loop is needed to alleviate the bottlenecking effect of the Niagara Line.

3.3 Western and Central Sections

TransCanada indicated that of the 188.3 km of loop applied for in the Western Section, 140.5 km of loop would be needed to accommodate Canadian growth in the operating year 1981-82. The construction of the remaining 47.8 km would result in an excess capability on the Western Section of 2.3 percent based on 1981-82 winter seasonal requirements.

TransCanada also indicated that, of the facilities proposed in the Central Section, only the 21-MW unit at Station 69 would be needed to accommodate the increase in Canadian requirements for the operating year 1981-82. The construction of the remaining facilities, namely the 61.0 km of loop, the 21-MW unit additions to Stations 49, 58 and 80, and the 12-MW unit additions to Stations 105 and 116, would provide TransCanada with an excess capability of 5.6 percent based on 1981-82 annual requirements.

The Board is satisfied that the 140.5 km of loop in the Western Section and the new compressor station at MLV 69-2 are needed to meet the increase in Canadian requirements. The Board is satisfied that the remaining additional facilities in the Western and Central Sections would provide levels of excess capability which are not unreasonable at this time.

3.4 Advance (Excess) Capability

In the past, the Board has found it reasonable to allow certain levels of excess capability on TransCanada's system. The Applicant referred to the Board's Reasons for Decision dated July 1977. IPAC presented the view that excess capability must be considered in terms of the future requirements for market growth within the next year or two and that such excess capability should not be generalized.

The Board considers that these comments are reasonable and believes that the question of the appropriate level of excess capability on TransCanada's system is a matter which must be decided in light of the particular circumstances prevailing at the time facilities applications are made. The Board notes that if satisfactory U.S. regulatory authorizations are received for the ProGas licensed volumes, the levels of advance capability in the Western and Central Sections would be essentially reduced to zero.

3.5 Cost of Facilities and Canadian Content

TransCanada testified that its revised total cost estimate of 343 million (1981) dollars represented its best estimation of the upper limit of the costs at this time.

TransCanada estimated the Canadian content of its total capital expenditure would be 88 percent. The Board accepts the level of Canadian content as reasonable.

CHAPTER 4

ENVIRONMENTAL, SOCIO-ECONOMIC AND RIGHT-OF-WAY MATTERS

4.1 Environmental Matters

The Board has considered the environmental evidence of the Applicant and is satisfied that, in general, all the proposed facilities could be constructed and operated in an environmentally acceptable manner, given the implementation of effective mitigative measures.

The Board notes TransCanada's undertaking to implement the recommendations of its environmental consultants with respect to all of the proposed facilities, with the proviso that should actual conditions encountered differ from those contemplated, or should the actual construction schedule prove not to be compatible with any of the recommendations, further environmental impact assessments would be carried out and appropriate mitigative measures identified. If a certificate were granted, the Board would expect TransCanada to incorporate the recommendations of its consultants into its construction specifications and contracts, and would require the Applicant after completion of construction, to submit a report describing the impact of construction on the environment and assessing the effectiveness of the Company's policies, practices, recommendations and procedures in preventing or mitigating adverse environmental effects.

The consultants have recommended that further archaeological surveys should be conducted to determine what sites

and artifacts might be encountered. TransCanada testified that the recommended surveys would be undertaken, and should a certificate be issued, the Applicant would be required to submit those reports to the Board prior to construction.

The Board is aware that TransCanada has previously crossed most of the streams and thus is familiar with the environmental concerns and the requirements for appropriate design, restoration and mitigative procedures.

TransCanada specifically adopted the recommendations of its consultant and of Ontario and the Halton Region Conservation Authority to cross the Category IV streams along the proposed Niagara Line, namely the Credit River, Bronte Creek and Oakville Creek, during July and August. TransCanada indicated that it is currently preparing final design drawings and construction procedures for the Bronte and Oakville Creeks, and the Applicant submitted a report (Exhibit 14) which described a crossing technique study for the Credit River.

The Consultant recommended that site-specific water-course crossing designs be developed for each of the four major stream crossings (Rivière Châteauguay, Rivière St. Louis, Canal de Soulanges, Ruisseau Chambéry) along the St. Mathieu Extension. TransCanada stated that the construction details had not been finalized for all the river crossings, but that the studies could be made available to the Board prior to construction.

Should a certificate be granted to TransCanada, the Board would require the Applicant to file for Board approval the final design drawings and construction procedures for the Bronte and Oakville Creeks, and the four major river crossings along the St. Mathieu Extension. The Board would further require that the Category IV stream crossings along the Niagara Line be effected and completed during July and August, 1981.

The Applicant filed a revised construction schedule for the Vermilion Bay and Ignace loop sections in Ontario which proposed winter instead of summer construction. With respect to winter construction for these loop sections, concerns were expressed about siltation of rivers, slope stabilization and the impacts upon hydrostatic test sources and wildlife. TransCanada testified that the construction specifications would detail site-specific mitigative measures to temporarily stabilize slopes susceptible to erosion until spring when they would be revegetated by TransCanada.

The maintenance of agricultural productivity, the stripping of topsoil, the removal of rocks, and problems related to compaction and erosion were major concerns along most of the loop sections. The Applicant described the practices and procedures by which these concerns would be mitigated.

The Board is satisfied with the environmental consultant's recommendations and considers that implementation of those recommendations, in addition to the Applicant's standard construction

practices for crossing agricultural land, would be adequate to minimize the impact on agricultural land.

In regard to post-construction monitoring, the Board would require the Applicant to monitor the condition of agricultural crops on lands disturbed by pipeline construction for two years following leave to open and to report to the Board the results of that monitoring prior to 1 November of the year in which the studies were done.

Concerns were expressed regarding the use of toxic substances during pipeline construction and operation. Isocyanate is a toxic component of the urethane foam system which TransCanada recently utilized on the Temiscaming Extension and which may be used during the construction of the proposed facilities. TransCanada testified that trained personnel, the required equipment and the necessary neutralizing solutions would be on site to deal with any accidental spills of the material. The Applicant testified that proper disposal of used containers would be the contractor's responsibility.

TransCanada's practice of using triaryl phosphate lubricants at the majority of its gas turbine compressor stations was also questioned. Concerns were expressed regarding the toxicity of Fyrquel GT and the end products of hydrolysis.

The Board has investigated the use of triaryl phosphate (TAP) in pipelines under its jurisdiction and has determined that TAP is a weak neurotoxin and should be dealt with as a poisonous agent rather than an environmental contaminant. The Board continues to

monitor the subjects of TAP and the end products of hydrolysis.

TransCanada detailed the expected noise emission levels at the proposed compressor unit installations, including mobile units. The normal design standard for noise emission levels at compressor stations was stated to be 52 dBA at 100 meters. For Stations 139 and 144 TransCanada would design for a more stringent noise emission level of 48 dBA at 70 metres. The Board considers these design standards to be satisfactory.

The Board notes the concerns expressed by Ontario in these proceedings with respect to environmental matters affecting the Province. In particular, the Board notes Ontario's request that, should a certificate be granted, TransCanada be required to serve Ontario with copies of all site specific environmental material including monitoring reports in respect of facilities to be constructed in Ontario. Should the Board issue a certificate, a condition to this effect would be included.

4.2 Regional Socio-Economic Impact

TransCanada provided the Board with regional socio-economic impact assessment studies which included a description of the affected areas, an assessment of impact on these areas, and policy statements and measures related to positive action and/or mitigation

of adverse impacts resulting from the construction and operation of the proposed facilities.

Regional benefits that could accrue from this project would take the form of project-related employment and business opportunities. TransCanada pointed out that because of the short construction period in any one given area, the benefits to the regions would be minor and that, overall, the regional socio-economic impact of the construction and operation of the proposed facilities would be limited.

While overall project expenditures are significant, it is the Board's view that the regional socio-economic impact of the proposed facilities would be small. The Board's assessment is derived from the fact that the project expenditures would be distributed over four different Provinces and, in all but two pipeline sections, in areas which are sparsely populated. In addition, the short construction period would further contribute to reducing potential regional benefits.

The Board is also of the view that while the anticipated regional socio-economic impact of the project would be small, the project's impact on local economies would, nevertheless, be positive.

The Board is satisfied that TransCanada would take appropriate steps, in consultation with local communities, to promote benefits and to reduce adverse regional socio-economic impacts that could result from the construction and operation of the proposed facilities.

4.3 Right-of-Way Matters

TransCanada indicated that it planned to make use of its existing rights-of-way where possible and to acquire additional land along those loop sections where the existing rights-of-way could not accommodate an additional line of pipe. The Applicant also stated that temporary working space would be required in some areas. TransCanada testified that it had obtained options for the majority of new easements required for the construction of the proposed loops.

The Board accepts TransCanada's proposal to make use of its existing rights-of-way and to acquire additional rights-of-way, where required, as set out in the amended application. The Board notes that a high proportion of existing easements allow for the construction of additional pipelines.

In cross-examination, Ontario raised the issue of notification of landowners and, more specifically, questioned TransCanada as to the information provided to landowners along the proposed pipeline route.

TransCanada indicated that it fulfilled all the requirements for service and notification as set out in Hearing Order No. GH-2-81. Counsel for the Applicant further noted that proposed legislation now being considered would impose new requirements on the Applicant with respect to notification of landowners.

Ontario suggested in argument that it would be easy for the Board to require an applicant to convey to those landowners affected by any proposed facilities some brief information regarding hearings before the Board, and the rights of landowners to intervene at such hearings. Ontario indicated that it intended to make this a subject of a separate submission.

The Board acknowledges the concerns expressed by Ontario with regard to notification of landowners. The Board is confident that Bill C-60, an Act to amend the National Energy Board Act, will address the requirements for notification of landowners.

TransCanada submitted in evidence a copy of its standard damage release form to be utilized for this project. The Applicant testified that this release was for the damages to date. TransCanada agreed that even after this release was signed by the landowner, TransCanada would be open to discuss further compensation, should the claim be legitimate. The Board accepts TransCanada's undertaking in this regard.

TransCanada further testified that its contractor would be responsible for damages done to roads or other installations along the proposed route or off the route caused by hauling or handling of equipment in connection with the proposed construction.

CHAPTER 5

FINANCIAL MATTERS

The Applicant testified that financing of the proposed facilities has been arranged through the private placement of 400 million dollars U.S. in first mortgage pipeline bonds and through existing lines of credit.

The evidence revealed that the proposed facilities would add approximately 94 million dollars to the total cost of service for the fiscal year 1982. The Applicant testified that revenue generated from sales of additional gas as a result of these facilities would be approximately 196 million dollars. This would cover TransCanada's additional cost of service and would provide additional revenue of 102 million dollars at the Alberta border. The Board is satisfied that the project is financially feasible.

IGUA raised the issue of the economic feasibility of the project and contended that an increase in TransCanada's cost of service, regardless of rate-setting policies, would tend to increase the cost to consumers. A recommendation was made that the Board in considering this application should address the economic feasibility of the project, define the parameters of economic feasibility and require TransCanada to submit evidence on this subject in all future facilities applications. This issue is dealt with more fully in Chapter 6 of this Reasons for Decision.

CHAPTER 6

CONCERNS OF THE BOARD

The Board wishes to comment further upon several matters which were raised during the course of these proceedings.

The Board noted in Chapter 5 the concerns expressed by IGUA on the subject of the economic feasibility of this project, and agrees that this type of information may be important to the Board in determining the present and future public convenience and necessity of proposed pipeline facilities. However, this is only one of several factors which may be considered in a facilities application. The Board does not believe that it is appropriate, at this time, to set down stringent guidelines for the determination of economic feasibility and to specifically require the inclusion of evidence based on these guidelines in all facilities applications.

As noted in Chapter 4, Ontario expressed particular concerns about environmental and right-of-way matters affecting the proposed facilities in the Province of Ontario. Ontario indicated in argument that there has been a good working relationship between TransCanada and the various provincial ministries in the course of development of this and other similar projects. The Board would strongly encourage the continuation of this process of consultation and cooperation.

In argument, Counsel for TransCanada, while stressing the need for an early decision on the application, raised the more general issue of timing involved in the regulatory process itself. He indicated that TransCanada was concerned about the amount of time consumed in dealing with factual matters of a routine and informational nature during formal hearings before the Board. In particular, TransCanada suggested that the Board might consider holding pre-hearing conferences which could be attended by all intervenors, for the purpose of clearing away as many factual questions as possible.

Although formal public hearings are an essential part of the regulatory process, the Board shares TransCanada's concern about the amount of time involved in conducting those hearings. In an effort to streamline the hearing process, the Board has developed the practice of seeking technical and factual information from Applicants by way of deficiency letters and written information requests. Applicants could contribute to increased efficiency of the process by filing their applications and responses to deficiency letters and information requests in a complete and timely fashion.

The Board constantly reviews its procedures and notes TransCanada's suggestions.

CHAPTER 7

DISPOSITION

Having regard to the foregoing considerations, findings and conclusions, and having taken into account all matters that appear to it to be relevant, the Board is satisfied that the additional pipeline facilities applied for by TransCanada are and will be required by the present and future public convenience and necessity.

Therefore, the Board is prepared to issue a certificate of public convenience and necessity in respect of the following facilities, upon the terms and conditions set out in Appendix 2, subject to the approval of the Governor in Council:

Western Section -	22.9 km of loop between MLV 10 and MLV 11;
Montreal Line -	12.7 km of loop between the Ottawa Junction and MLV 146 and two 3-MW compressor units at Stations 139 and 144;
St. Mathieu Extension -	32.6 km of loop between MLV 701 and MLV 707;
Niagara Line -	43.7 km of loop between MLV 203 + 5.7 km and MLV 207.

The Board agrees with TransCanada's plan to locate three existing mobile compressors at Stations 134, 136 and 142.

As noted in Chapter I, the rest of the facilities applied for, namely 165.3 km of loop in the Western Section, and 61.0 km of loop and six compressor units at Stations 49, 58, 69, 80, 105 and 116 in the Central Section, have been authorized by Certificate of Public Convenience and Necessity No. GC-66, as amended, although the construction of these facilities is subject to certain pre-conditions.

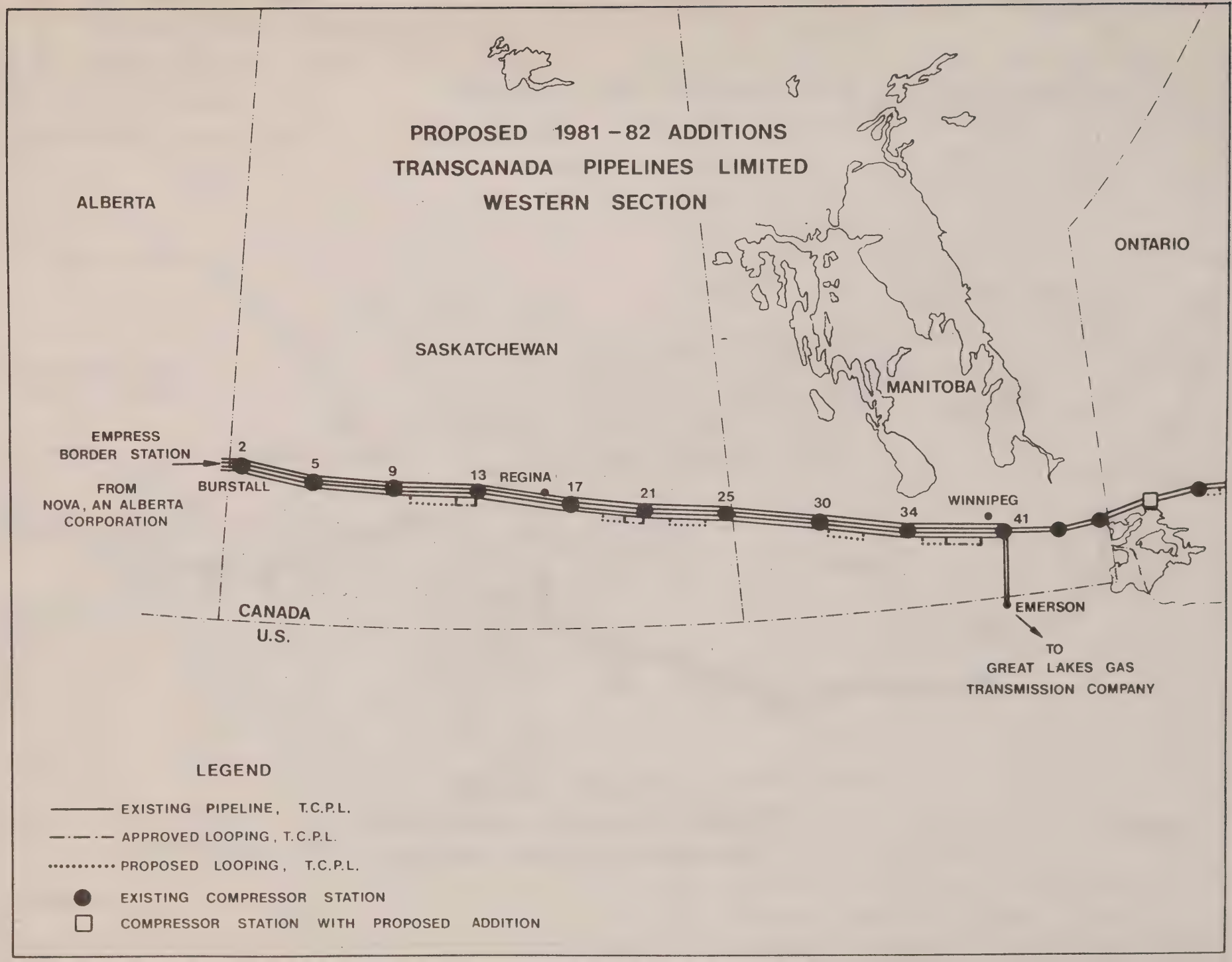
The Board is satisfied that these particular facilities, which were authorized by Certificate of Public Convenience and Necessity No. GC-66, as amended, and subject to Condition 14 thereof, are and will be required to meet sales and transportation requirements forecast for the 1981-82 contract year and to provide a level of excess capability which is not unreasonable at this time. Instead of issuing a new certificate for these particular facilities, the Board will amend Condition 14 of Certificate of Public Convenience and Necessity No. GC-66 to delete reference to the 165.3 km of loop in the Western Section, and the six compressor units and the 61.0 km of loop in the Central Section. The Board is also prepared to authorize TransCanada to install 12-MW compressor units at Stations 105 and 116 under Certificate of Public Convenience and Necessity No. GC-66, as amended, instead of the 8-MW units currently authorized.

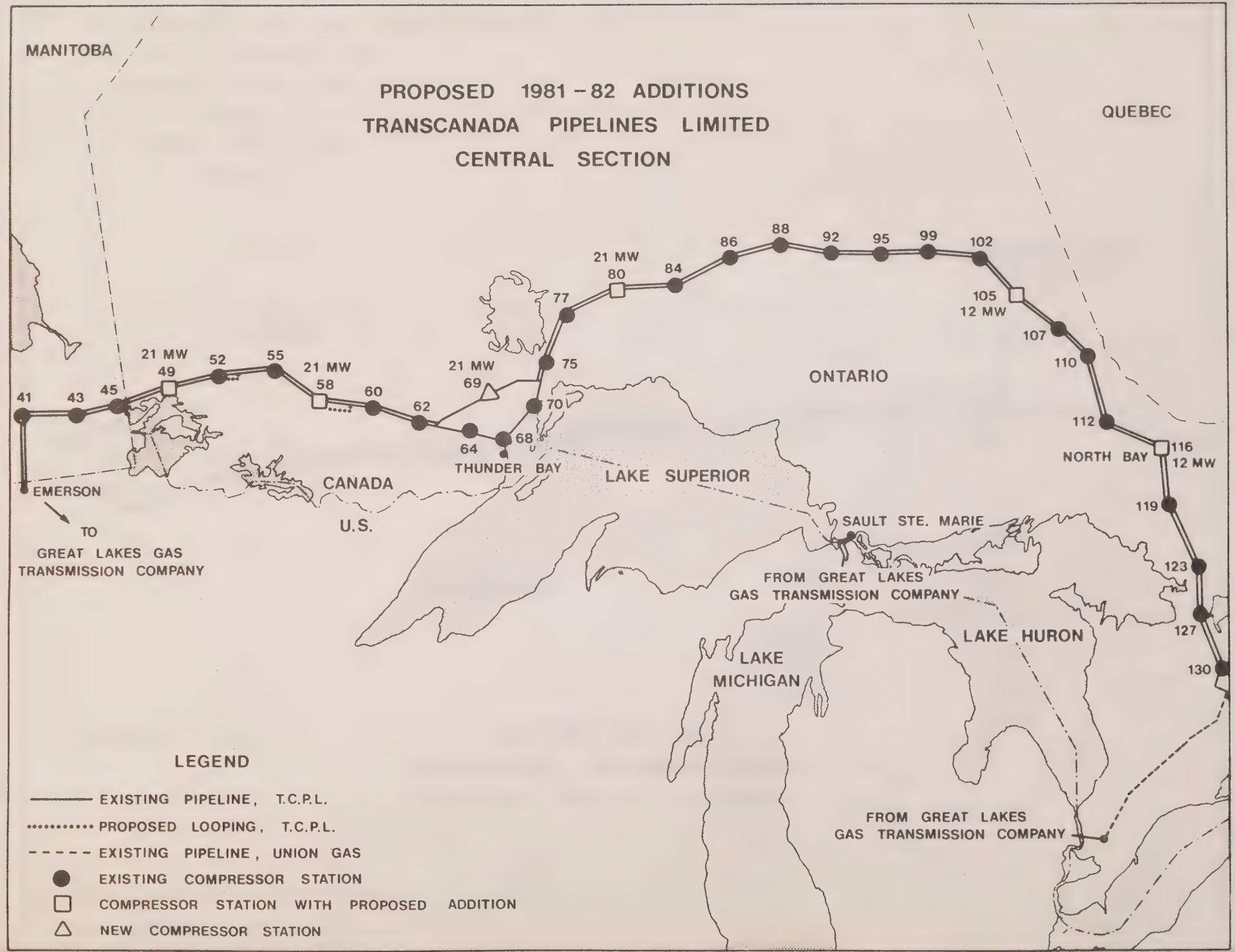
All of which is respectfully submitted.

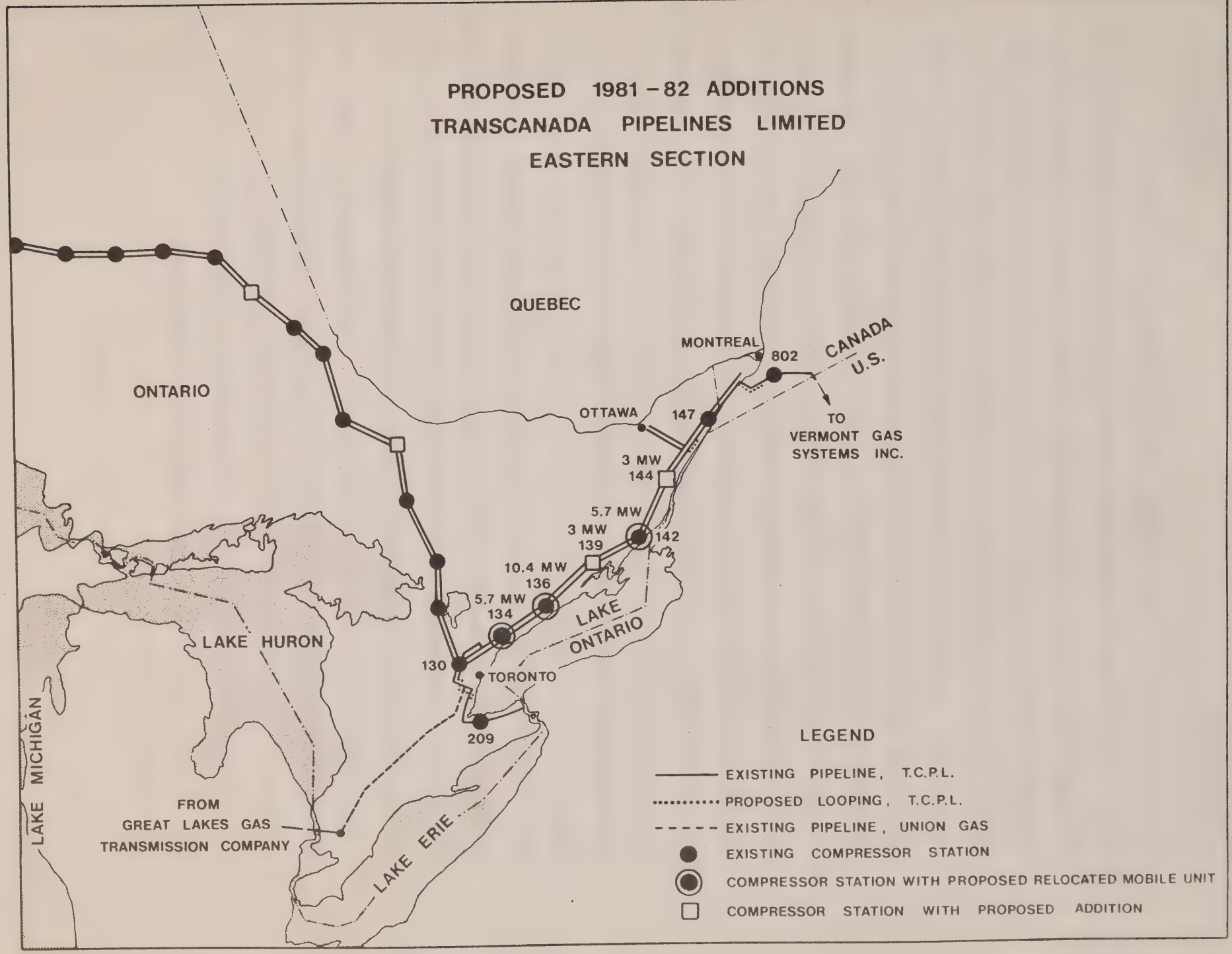
J. Farmer
Presiding Member

J.R. Jenkins
Member

J.L. Trudel
Member


PROPOSED 1981 – 82 ADDITIONS
TRANSCANADA PIPELINES LIMITED
WESTERN SECTION
ALBERTA
SASKATCHEWAN
MANITOBA
ONTARIO
EMPRESS
BORDER STATION
FROM
NOVA, AN ALBERTA
CORPORATION
BURSTALL
2
5
9
13
REGINA
17
21
25
30
34
WINNIPEG
41
CANADA
U.S.
EMERSON
TO
GREAT LAKES GAS
TRANSMISSION COMPANY
LEGEND
EXISTING PIPELINE, T.C.P.L.
APPROVED LOOPING, T.C.P.L.
PROPOSED LOOPING, T.C.P.L.
EXISTING COMPRESSOR STATION
COMPRESSOR STATION WITH PROPOSED ADDITION


PROPOSED 1981 – 82 ADDITIONS
TRANSCANADA PIPELINES LIMITED
CENTRAL SECTION
MANITOBA
QUEBEC
ONTARIO
LAKE SUPERIOR
LAKE HURON
LAKE MICHIGAN
CANADA
U.S.
EMERSON
TO GREAT LAKES GAS TRANSMISSION COMPANY
THUNDER BAY
NORTH BAY
SAULT STE. MARIE
FROM GREAT LAKES GAS TRANSMISSION COMPANY
FROM GREAT LAKES GAS TRANSMISSION COMPANY
21 MW
12 MW
41
43
45
49
52
55
58
60
62
64
68
69
70
75
77
80
84
86
88
92
95
99
102
105
107
110
112
116
119
123
127
130
LEGEND
EXISTING PIPELINE, T.C.P.L.
PROPOSED LOOPING, T.C.P.L.
EXISTING PIPELINE, UNION GAS
EXISTING COMPRESSOR STATION
COMPRESSOR STATION WITH PROPOSED ADDITION
NEW COMPRESSOR STATION


PROPOSED 1981 – 82 ADDITIONS
TRANSCANADA PIPELINES LIMITED
EASTERN SECTION
QUEBEC
ONTARIO
MONTREAL
802
CANADA
U.S.
OTTAWA
147
TO
VERMONT GAS
SYSTEMS INC.
3 MW
144
5.7 MW
3 MW
139
142
10.4 MW
136
5.7 MW
134
LAKE
ONTARIO
LAKE HURON
130
TORONTO
209
LAKE MICHIGAN
FROM
GREAT LAKES GAS
TRANSMISSION COMPANY
LAKE ERIE
LEGEND
EXISTING PIPELINE, T.C.P.L.
PROPOSED LOOPING, T.C.P.L.
EXISTING PIPELINE, UNION GAS
EXISTING COMPRESSOR STATION
COMPRESSOR STATION WITH PROPOSED RELOCATED MOBILE UNIT
COMPRESSOR STATION WITH PROPOSED ADDITION

TERMS AND CONDITIONS

1. The additional pipeline facilities to be constructed pursuant to this certificate shall be the property of and shall be operated by TransCanada.

2. (1) TransCanada shall cause the additional pipeline facilities, in respect of which this certificate is issued, to be designed, manufactured, located, constructed and installed in accordance with those specifications, drawings and other information or data set forth in the application, or as otherwise adduced in evidence, except as otherwise ordered, directed or approved by the Board, unless varied in accordance with subcondition (2) hereof.

(2) TransCanada shall cause no variation to be made in the specifications, drawings, or other design data and requirements described in subcondition (1) hereof without prior approval of the Board.

3. TransCanada shall, unless otherwise authorized or ordered by the Board, implement or cause to be implemented all the policies, practices, recommendations and procedures for the protection of farmlands and the environment which are included in TransCanada's environmental reports, its Construction Specifications - 1981, its Environmental Protection Practices Handbook - 1979, and as otherwise adduced in evidence before the Board, and shall cause no changes to be made to the said policies, practices, recommendations and procedures without the prior approval of the Board.

4. TransCanada shall, within six months of leave-to-open being granted, unless upon application by TransCanada a later date is fixed by the Board, submit a report satisfactory to the Board describing the implementation of the policies, practices, recommendations and procedures referred to in Condition 3. The report shall include:

i) details of any deviation, and

ii) an assessment of the effectiveness of the said policies, practices, recommendations and procedures.

5. TransCanada shall, concurrent with the filing thereof with the Board, serve on the Minister of Energy for the Province of Ontario, copies of all site-specific environmental material including monitoring reports in respect of facilities to be constructed in the Province of Ontario.

6. TransCanada shall conduct a noise level survey at each compressor station at which new or portable units will be installed during the first year of operation under winter conditions and with the compressor station operating at normal load, and shall submit the results of these surveys to the Board for approval.

7. TransCanada shall, prior to construction, submit for the approval of the Board:

a) final design drawings and construction procedures for the

i) Bronte and Oakville Creeks, and

ii) Ruisseau Chambéry, Canal de Soulanges, Rivière St. Louis, and Rivière Châteauguay; and

b) the results of the archaeological field surveys recommended in TransCanada's environmental reports.

8. TransCanada shall cause the construction and installation of the three Category IV stream crossings along the Niagara Line (Credit River, Oakville Creek, Bronte Creek) to be effected and completed during July and August, 1981, unless, upon application by TransCanada, later dates are fixed by the Board.

9. TransCanada shall, both during and after the construction period, monitor the effects of the construction of the additional pipeline facilities upon farmlands and the environment and shall submit reports satisfactory to the Board describing such effects. The reports shall be filed

i) within one year of the date of leave-to-open being granted, and

ii) prior to 1 November following the second complete agricultural growing season after leave-to-open has been granted,

unless, upon application by TransCanada, later dates are fixed by the Board. The reports shall include a description of the effects noted during the monitoring programs and of the actions taken or which will be taken, to prevent or mitigate any long-term effects of construction upon farmlands and the environment.

10. TransCanada shall, prior to the commencement of welding of the pipeline, submit to the Board information relating to field welding specifications and procedures that shall include at least:

(a) the requirements for qualification of welding procedures and for qualification of welders;

(b) the standards of acceptability for weld defects;

(c) the requirements for mechanical property and metallurgical testing;

(d) the specification of essential variables associated with the qualified welding procedure; and

(e) the documentation supporting the adequacy of the welding procedure.

11. TransCanada shall, prior to the commencement of welding of the pipeline, submit to the Board:

(a) the detailed non-destructive testing procedures for field welds, including the methods and techniques to be used;

(b) the requirements for qualification of all personnel involved in testing and in the interpretation of test results; and

(c) a description of the duties and authorities of all parties involved in the performance of testing and interpretation of test results.

12. TransCanada shall, prior to commencement of construction, submit to the Board for approval final specifications for line-pipe, pipeline components, and pipe coating.

13. TransCanada shall, prior to the commencement of construction, submit to the Board for approval a list of standards and company engineering specifications proposed to be used on this project.

14. TransCanada shall, within six months of obtaining leave to open for each portion of the pipeline facilities, unless upon application by TransCanada a later date is fixed by the Board, file detailed cost breakdown information for the facilities authorized by this certificate in formats similar to those used in Exhibits 76 and 79 filed at the hearing held pursuant to Board Order No. GH-2-81.

15. TransCanada shall cause the construction and installation of the additional pipeline facilities to be completed on or before 30 June 1982, unless, upon application by TransCanada, a later date is fixed by the Board.